Technology in Rural Transportation

A recent study documented more than eighty proven, cost-effective, "low-tech" solutions to rural transportation needs, most developed or implemented by local transportation professionals. One of these solutions is outlined below:

Learn all about the simple solutions on the Internet at http://inform.enterprise.prog.org

The simple solutions report is available from Hau To at (503) 892-2533, or email: to@crc-corp.com

Low-Cost Vehicle Detection

Overall goal:	To develop a low-cost alternative to loop detectors for monitoring traffic flow and lane occupancy.
Technical approach:	Vehicle detection to determine traffic volumes or lane occupancy is essential for timing traffic signals, planning roadway expansions and predicting traffic impacts, even on low volume roads or rural areas. Traditional loop detectors require permanent installation and are expensive. This simple solution uses less expensive audio technology to detect the presence of vehicles. The Smartsonic Sensor measures the acoustic energy radiated by passing vehicles to determine the lane occupancy and vehicle count. The acoustic detector can also determine vehicle speeds, types and, when used as part of a network, link travel times.
Current status:	Development of the sensor has been completed, and it is now commercially available.
Location / geographic scope:	The system is currently in use in Arizona, Texas, Virginia and Massachusetts and can be used where there is a pole, bridge or overpass on which to mount it.
Agencies involved:	AT&T developed the sensor in conjunction with the Virginia Tech Center for Transportation Research, sponsored by the FHWA. The system has since been sold to International Road Dynamics Inc. (IRD) for commercial production.
Cost information:	One lane equipment cost: $1500. One lane installation cost: $500. Four lane equipment cost: $6000. Four lane installation cost: $1000.
Key contacts:	Rod Klashinsky, IRD. (306) 653-6600

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Have goals been achieved?	Yes, however the devices only work properly for free-flowing highway traffic. Congested or slow traffic does not produce the needed acoustic energy for the sensor to collect data on any one vehicle. Therefore, the sensor is probably best used on rural highways that have a good level of service or are free-flowing.
Solution timeline:	The sensor is commercially available from International Road Dynamics Inc.

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